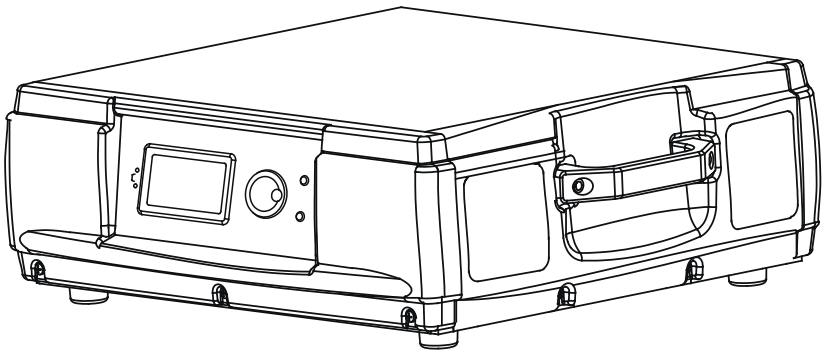
Media Hub 2x4 DT



DT series

USER MANUAL

Version 1.0

ROBE® Show Lighting s.r.o. • Czech republic • www.robe.cz

MediaHub 2x4 DT

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CAUTION!
Keep this device away from rain and moisture!
Unplug mains lead before opening the housing!

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOU INITIAL START - UP!

1. Safety instructions

Every person involved with installation of this device has to:
- be suitable qualified and be familiar with this type of product
- follow the instructions of this manual

CAUTION!
Be careful with your operations.
With a high voltage you can suffer
a dangerous electric shock when touching the wires!

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this manual.

Important:
The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modification to the device.

Please consider that damages caused by manual modifications to the device are not subject to warranty.

Make sure that the available voltage is not higher than stated on the User manual.

Always plug in the power plug least. Make sure that the power-switch is set to off-position before you connect the device to the mains. The power plug has to be accessable after installing the device.

Make sure that the power-cord is never crimped or damaged by sharp edges. Check the device and the power-cord from time to time.

Always disconnect from the mains, when the device is not in use or before cleaning it. Only handle the power-cord by the plug. Never pull out the plug by tugging the power cord.

This device falls under protection class I.Therefore it is essential to connect the yellow/green conductor to earth.

The electric connection, repairs and servicing must be carried out by a qualified employee.

2. Operating determinations

If the device has been exposed to drastic temperature uctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.

Do not shake the device. Avoid brute force when installing or operating the device.

When choosing the installation-spot, please make sure that the device is not exposed to extreme heat, moisture or dust.

Make sure that the area below the installation place is blocked when rigging, derigging or servicing the fixture.

For overhead installation always fix the fixture with an appropriate safety rope. Fix the safety rope at the correct holes only.

Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.

Operate the device only after having familiarized with its functions. Do not permit operation by persons not qualified for operating the device. Most damages are the result of unprofessional operation!

Please use the original packaging if the device is to be transported.

Please consider that unauthorized modifications on the device are forbidden due to safety reasons!

If this device will be operated in any way different to the one described in this manual, the product may suffer damages and the guarantee becomes void. Furthermore, any other operation may lead to dangers like short-circuit,electric shock etc.

Do not operate this fixture with opened housing-cover!

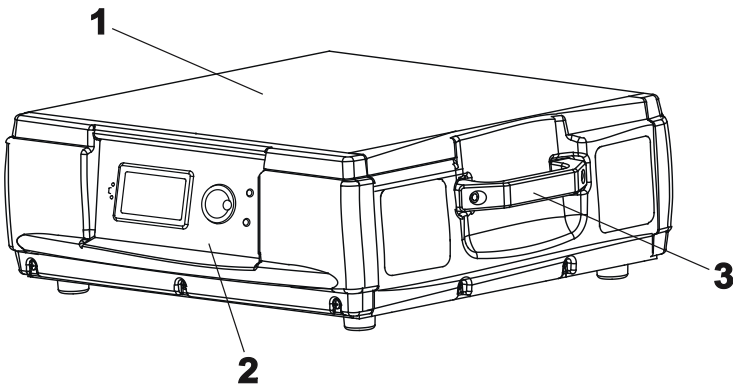
3. Unpacking the fixture

The MediaHub 2x4 DT cardboard box includes items:

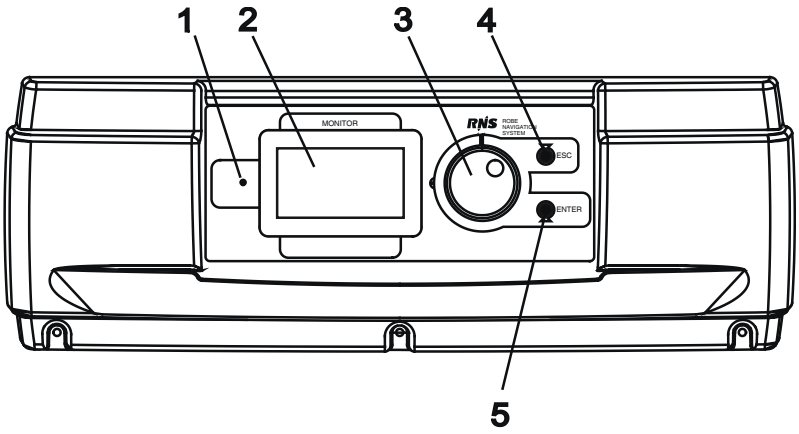
- MediaHub 2x4DT
- User manual (1piece)
- Mounting brackets Omega CL assembled (2 pieces)

Unpack unit with care and inspect for transit demage.If damage is suspected,the unit must not be used.

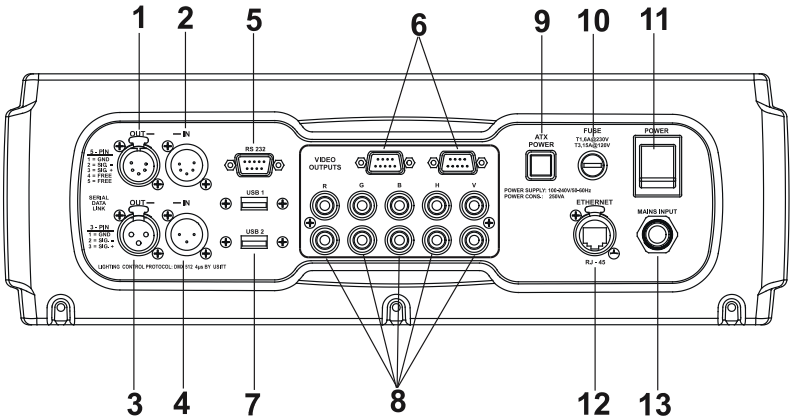
4. Description of the device



1 - Top cover
2 - Front panel
3 - Handle



Front panel
1 - Infra-red sensor
2 - Display
3 - RNS control wheel
4 - Escape button
5 - Enter button



Rear panel
1 - 5-pin DMX output
2 - 5-pin DMX input
3 - 3-pin DMX output
4 - 3-pin DMX input
5 - RS-232 output
6 - 15-Pin VGA outputs
7 - USB inputs
8 - RGBHV outputs
9 - ATX power button
10 - Fuse
11 - Power switch
12 - Ethernet input
13 - Power cord

5. Product Overiew

MediaHub 2x4DT is a DMX controllable digital media server utilizes Windows XP and Direct X technology.MediaHub 2x4DT use DMX protocol to control loading images and movies.The graphic engine enables you manipulate position,scale,rotation,apply vizual effects and colour mix each image.

Features:

System

MediaHub 2x4DT based on Windows XP Embedded and Direct X technology
DMX 512 and Art-Net support connection
RGBHV and VGA connection

Hardware

3 GHz Intel® LGA775 Pentium 4 Prescott processor
1GB RAM
Intel® Graphics Media Accelerator 915G
80 GB hard disc
Gigabit Ethernet card
2 USB ports,v.2.0
RS 232 Serial port

6. Installation

6.1 Mounting the fixture

Fixture suitable for dry locations only!
Do not expose this fixture to rain or moisture!

The fixture can be placed directly on the stage oor or rigged in any orientation on a truss without altering its operation characteristics.

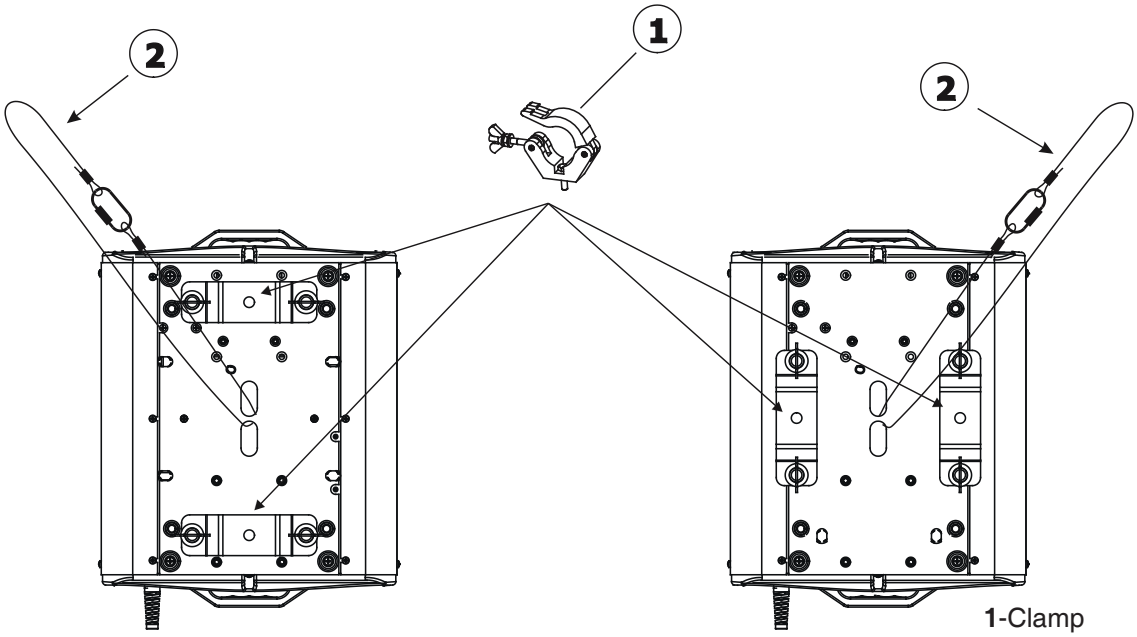
For overhead use, always install a safety-rope that can hold at least 10 times the weight of the fixture. You must only use safety ropes with screw-on carabines. Pull the safety rope through the two apertures on the bottom of the base and over the truss. Insert the end in the carabine and tighten the fixation screw.
Before rigging make sure that the installation area can hold a minimum point load of 10 times the fixture's weight.
When rigging, derigging or servicing the fixture staying in the area below the installation place, on bridges, under high working places and other endangered areas is forbidden.

Avoid brute force when installing or operating the unit.
When choosing the installation-spot, please make sure that the unit is not exposed to extreme heat, moisture or dust.
Only operate the unit after having checked that the housing is firmly closed and all screws are tightly fastened.

CAUTION!
Use 2 appropriate clamps to mount the fixture on the truss.
Follow the instructions mentioned at the bottom of the base.
Make sure that the device is fixed properly! Ensure that the structure (truss) to which you are attaching the fixtures is secure.

Overhead fixation via the omega holders

1.Bolt each clamp (1) to the Omega holder (4) with M12 bolt and lock nut through the hole in the holder.
2.Fasten the Omega holders to the bottom of the fixture inserting both quick-lock fasteners (3) into the holes of base and tighten fully clockwise.
3.Fasten the safety-rope (2) through the two apertures on the bottom of the fixture and around the truss.



1-Clamp
2-Safety-rope
3-Quick-lock fastener
4-Omega holder

6.2 Connection to the mains

Connect the fixture to the mains with the power cord.
If the plug on the exible cord is not the right type for your socket outlets,do not use an adaptor,but remove the plug from the cord and discard.Carefully prepare the end of the the supply cord and fit a suitable plug.
The earth has to be connected!

Cable (EU)	Cable (US)	Pin	International
Brown	Black	Live	L
Light blue	White	Neutral	N
Yellow/Green	Green	Earth	⏚

6.3 Powering on the MediaHub 2x4 DT

Connect the fixture to the power source.Switch on the Power switch on the rear side of the fixture

6.4 Shutting down the MediaHub 2x4 DT

A DMX controller can shut down the fixture remotaly with the shutdown option of the control channel No.6

Removing power directly without the shutdown procedure can reduce fixture reliability!

When shutdown procedure is finished,switch off the Power switch on the rear side of the fixture.

6.5 Folders organization

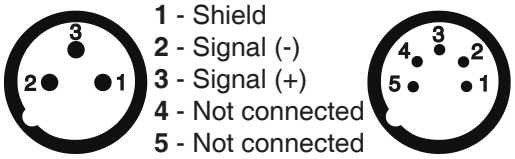
The MediaHub 2x4 DT has a file system that holds the images and movies .These files are saved in 2 folders:
"**gobo1**"- images/movies for layer 1
"**gobo2** "- images/movies for layer 2
The images and video clips can be in one of the following formats: .bmp;.jpg; .tga; .png; .mpg1; .mpg2.
The last folder is named "**Update**" and the new software has to be copy into it before software update.Its sub-folder "**backup**" contains old software version.
All the above-mentioned folders are shared.

6.6 DMX-512 connection

The fixture is equipped with both 3-pin and 5-pin XLR sockets for DMX input and output.The sockets are wired in parallel.
Only use a shielded twisted-pair cable designed for RS-485 and 3-pin or 5-pin XLR-plugs and connectors in order to connect the controller with the fixture or one fixture with another.

DMX - output

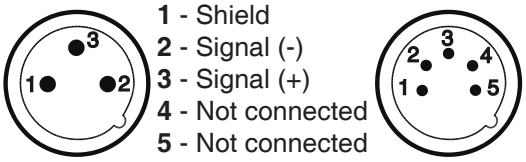
XLR mounting-sockets (rear view):



1 - Shield
2 - Signal (-)
3 - Signal (+)
4 - Not connected
5 - Not connected

DMX-input

XLR mounting-plugs (rear view):



1 - Shield
2 - Signal (-)
3 - Signal (+)
4 - Not connected
5 - Not connected

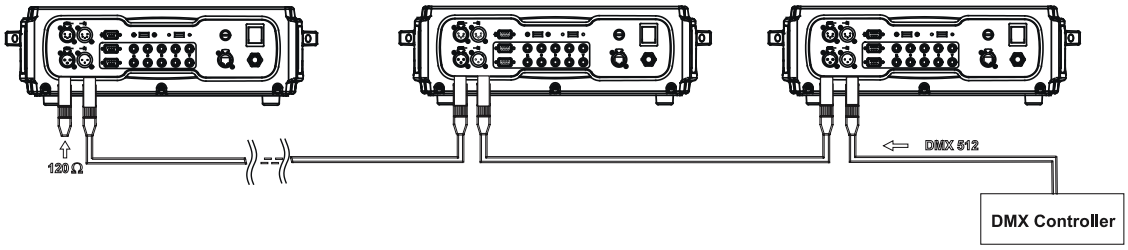
If you are using the standard DMX controllers, you can connect the DMX output of the controller directly with the DMX input of the first fixture in the DMX link. If you wish to connect DMX controllers with other XLR-outputs, you need to use adapter cables.

Building a DMX link.
1.Connect the XLR connector of a DMX data cable to the controller´s DMX data output connector.
2.Connect the data cable´s XLR connector to the DMX In connector of the first (or next) fixture on the DMX link.
3.Continue linking the remaining fixtures connecting a cable from the DMX Out connector of each fixture to the DMX In connector of the next fixture on the link.
4.Set desired DMX addresses on all fixtures.Option " DMX In" has to be selected from "Operation mode" menu on all fixtures.

Caution: At the last fixture, the DMX link has to be terminated with a terminator. Solder a 120 Ω resistor between Signal (–) and Signal (+) into a 3-pin (5-pin) XLR plug and connect it to the DMX Out of the last fixture.

Example:

Operation mode: DMX In	Operation mode: DMX In	Operation mode: DMX In
DMX address=73	DMX address=37	DMX address=1



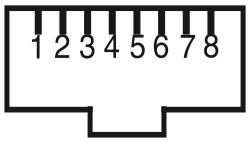
6.7 Ethernet connection

The fixtures communicates with your workstation or laptop over an Ethernet network using the Art-net communication protocol.
Art-Net communication protocol is a 10 Base T Ethernet protocol based on the TCP/IP.Its purpose is to allow transfer of large amounts of DMX 512 data over a wide area using standard network technology.

IP address is the Internet protocol address.The IP uniquely identifies any node (fixture) on a network.
The Universe is a single DMX 512 frame of 512 channels.

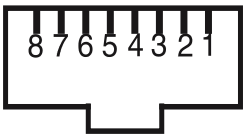
The MediaHub 2x4 DT is equipped with 8-pin RJ- 45 socket for the Ethernet input.Use a network cable category 5 (with four "twisted" wire pairs) and standard RJ-45 plugs in order to connect the fixture to the network.

RJ-45 socket (front view):



1- TD +
2- TD -
3- RX +
4- Not connected
5- Not connected
6- RX -
7- Not connected
8- Not connected

RJ-45 plug (front view):



Patch cables that connect fixtures to the hubs or LAN sockets are wired 1:1,that is,pins with the same numbers are connected together:

1-1	2-2	3-3	4-4	5-5	6-6	7-7	8-8

If only the fixture and the computer(or two fixtures) are to be interconnected,no hubs or other active components are needed.A cross-cable has to be used:

1-3	2-6	3-1	4-8	5-7	6-2	7-5	8-4

Building an Ethernet link

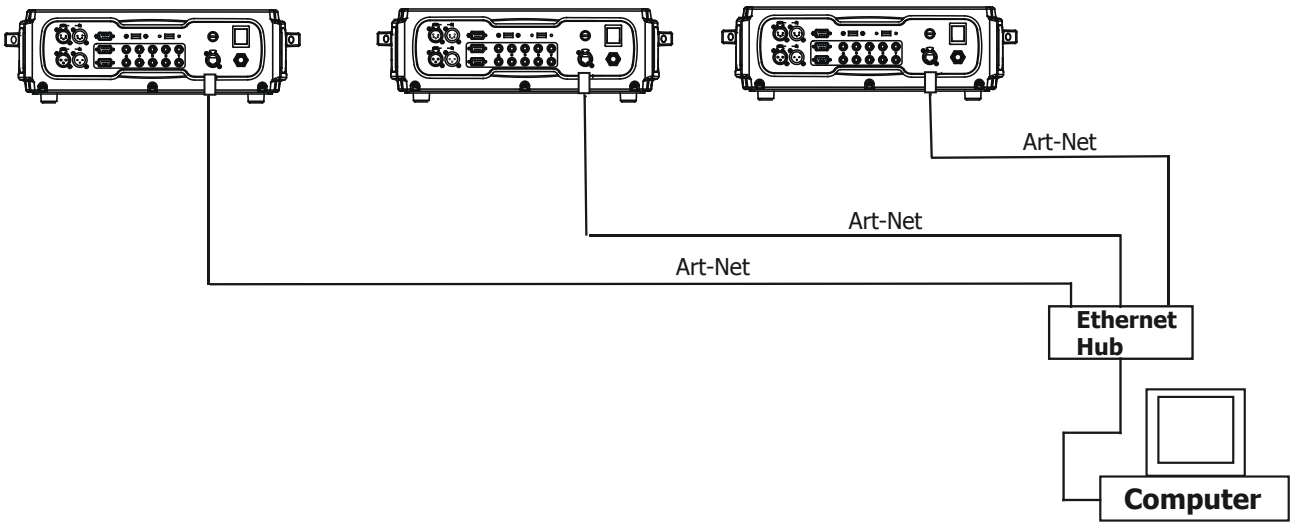
1.Connect the network cable´s connector to the Ethernet Hub output.
2.Connect the network cable´s connector to to the Ethernet input (RJ-45)of the first fixture on the Ethernet link.
3.Continue linking the remaining fixtures connecting a cable from the Ethernet input of each fixture to the outputs of the Ethernet Hub.
4.Set desired DMX and IP addresses and Universe on all fixtures.Option " Artnet In" has to be selected from "Operation mode" menu on all fixtures.

Example:

Operation mode: Artnet In
DMX address=73
IP addres=002.168.002.004
Universe=0 1

Operation mode: Artnet In
DMX address=1
IP addres=002.168.002.003
Universe=0 1

Operation mode: Artnet In
DMX address=1
IP addres=002.168.002.002
Universe=0 2



Building a DMX/Ethernet link

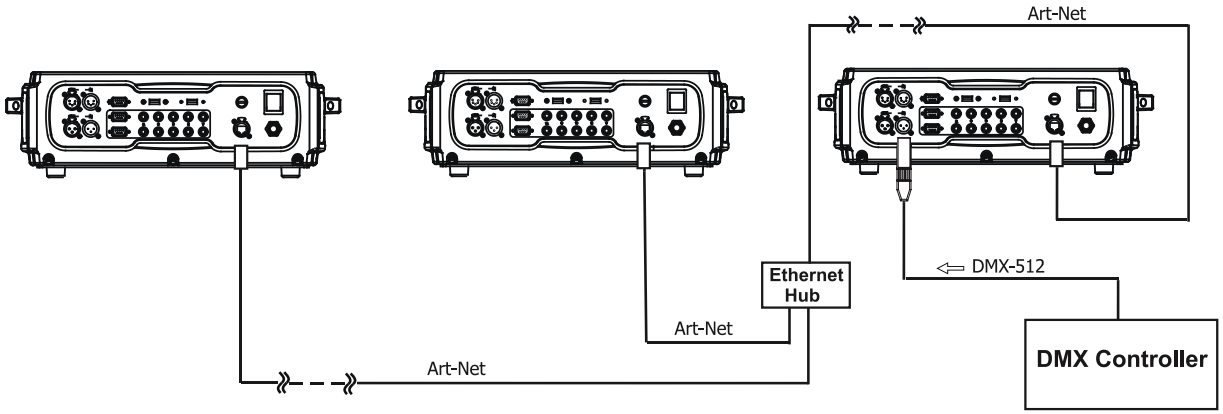
1.Connect the XLR connector of a DMX data cable to the controller´s DMX data output connector.
2.Connect the data cable´s XLR connector to the DMX In connector of the first fixture on the DMX/Ethernet link.
3.Connect the network data cable from the first fixture´s Ethernet input to the Ethernet Hub Input of.
4.Continue linking the remaining fixtures connecting a network cables from the Ethernet input connector of each fixture to the output connectors of the Ethernet Hub.
5.Set desired DMX address on the first fixture and from menu "Operation mode" select " DMX In-Artnet Out"
6.Set suitable DMX and IP addresses and universe on the rest of the fixtures.Option " Artnet In" has to be selected from "Operation mode" menu on these fixtures.

Example:

Operation mode: Artnet In
DMX address=37
IP addres=002.168.002.004
Universe= 0 1

Operation mode: Artnet In
DMX address=1
IP addres=002.168.002.003
Universe=0 1

Operation mode: DMX In-Artnet Out
DMX address=1
IP addres=002.168.002.002
Universe=0 1



6.8 Configuring the MediaHub 2x4 DT

Before controlling the fixture from a DMX controller or PC,you need to:
1.Define the source of DMX data (see chapter "Fixture address",Operation mode).
2.Set IP address and another values related to the Ethernet operation if it is needed (see chapter "Fixture address",Ethernet settings)
3.Assign a valid DMX start channel (see chapter "Fixture Address,DMX address).

7. MediaHub 2x4DT - DMX Protocol - version 1.0

Channel	Value	Function	Type of control
		Gobo layer 1	
1	0 - 255	**Dimmer 1** Dimmer intensity from 0% to 100%	proportional
2		**Gobo 1 selection**	
	0	White	step
	1	Gobo 1-black and white	step
	2	Gobo 2-black and white	step
	3	Gobo 3-black and white	step
	4	Gobo 4-black and white	step
	5	Gobo 5-black and white	step
	6	Gobo 6-black and white	step
	7	Gobo 7-black and white	step
	8	Gobo 8-black and white	step
	9	Gobo 9-black and white	step
	10	Gobo 10-black and white	step
	11	Gobo 11-black and white	step
	12	Gobo 12-black and white	step
	13	Gobo 13-black and white	step
	14	Gobo 14-black and white	step
	15	Gobo 15-black and white	step
	16	Gobo 16-black and white	step
	17	Gobo 17-black and white	step
	18	Gobo 18-black and white	step
	19	Gobo 19-black and white	step
	20	Gobo 20-black and white	step
	21	Gobo 21-colour	step
	22	Gobo 22-colour	step
	23	Gobo 23-colour	step
	24	Gobo 24-colour	step
	25	Gobo 25-colour	step
	26	Gobo 26-black and white	step
	27	Gobo 27-colour	step
	28	Gobo 28-black and white	step
	29	Gobo 29-black and white	step
	30	Gobo 30-colour	step
	31	Gobo 31-colour	step
	32	Gobo 32-colour	step
	33	Gobo 33-black and white	step
	34	Gobo 34-from yellow to green	step
	35	Gobo 35-from red to yellow	step
	36	Gobo 36-from magenta to red	step
	37	Gobo 37-from blue to magenta	step
	38	Gobo 38-from cyan to blue	step
	39	Gobo 39-from light green to cyan	step
	40	Gobo 40-RGB strips	step
	41	Gobo 41-colour animation	step
	42	Gobo 42-colour animation	step
	43	Gobo 43-colour animation	step
	44	Gobo 44-colour animation	step
	45	Gobo 45-colour animation	step
	46	Gobo 46-colour animation	step
	47	Gobo 47-colour animation	step
	48	Gobo 48-colour animation	step
	49	Gobo 49-colour animation	step
	50	Gobo 50-colour animation	step
	51	Gobo 51-colour animation	step
	52	Gobo 52-colour animation	step

Channel	Value	Function	Type of control
2	53	Gobo 53-colour animation	step
	54	Gobo 54-colour animation	step
	55	Gobo 55-black and white animation	step
	56	Gobo 56-black and white animation	step
	57	Gobo 57-black and white animation	step
	58	Gobo 58-black and white animation	step
	59	Gobo 59-black and white animation	step
	60	Gobo 60-black and white animation	step
	61	Gobo 61-black and white animation	step
	62	Gobo 62-black and white animation	step
	63	Gobo 63-black and white animation	step
	64	Gobo 64-black and white animation	step
	65	Gobo 65-Robe logo animation	step
	66	Gobo 66-Robe logo	step
	67	Gobo 67-colour animation	step
	68-255	Reserved	
3		**Gobo 1 control**	
	0	Stop	step
	1-127	Play slow---> normal	proportional
	128	Play loop	step
	129-254	Play normal---> fast	proportional
	255	Pause	step
4		**Gobo 1 Indexing and rotation**	
	0 -63	Clockwise rotation fast ---> slow	proportional
	64-127	Indexing	proportional
	128	No rotation-centre	step
	129-192	Indexing	proportional
	193-255	Anticlockwise rotation slow ---> fast	proportional
5		**Gobo 1 fine indexing (rotation)**	
	0 - 255	Fine indexing (rotation)	proportional
6		**Gobo 1 effect Selection**	**Type of effect control**
		(set amount/speed on channel 7)	
	0	Disabled	
	1	Zoom sinus	speed
	2	Zoom bump in fade out	speed
	3	Zoom fade in bump out	speed
	4	Zoom bump in out	speed
	5	Zoom in fade	speed
	6	Zoom out fade	speed
	7	Scale xy sinus	speed
	8	Scale xy bump in fade out	speed
	9	Scale xy fade in bump out	speed
	10	Scale xy bump in out	speed
	11	XY pos. circle counter-clockwise	speed
	12	XY pos. circle clockwise	speed
	13	XY pos. scroll up	speed
	14	XY pos. scroll down	speed
	15	XY pos. scroll left	speed
	16	XY pos.scroll right	speed
	17	Left-right diag. down scroll	speed
	18	Left-right diag. up scroll	speed
	19	Right-left diag. down scroll	speed
	20	Right-left diag. up scroll	speed
	21	X rotate	speed
	22	Y rotate	speed
	23	XY rotate	speed
	24	XY inv. rotate	speed
	25	X inv. y rotate	speed
	26	Tile xy	amount
	27	Tile xy sinus	speed

Channel	Value	Function	Type of effect control
	28	XYZ rot. cube	speed
	29	XYZ rot. sphere	speed
	30	X rot. cylinder	speed
	31	Y rot. cylinder	speed
	32	Cone z scale sinus	speed
	33	Kaleidoscope	none
	34	Fisheye in	none
	35	Fisheye out	none
	36	Swirl left	none
	37	Swirl right	none
	38	Bend x	none
	39	Bend y	none
	40	Tile frame	none
	41	Frame	none
	42	Plane ip x	none
	43	Plane ip y	none
	44	Plane ip x y	none
	45	Plane mirror x	none
	46	Plane mirror y	none
	47	Plane mirror xy	none
	48	Plane tile 2x	none
	49	Plane tile 3x	none
	50	Plane tile 4x	none
	51	Plane tile 5x	none
6	52	Disc	none
	53	Disc ip x	none
	54	Disc ip y	none
	55	Disc ip x y	none
	56	Disc mirror x	none
	57	Disc mirror y	none
	58	Disc mirror xy	none
	59	Squeeze in	none
	60	Squeeze out	none
	61	Plane wavy diag 1	none
	62	Plane wavy diag 2	none
	63	Stretch x	none
	64	Stretch y	none
	65	Colour to black and white	amount
	66	Colour to black and white inv.	amount
	67	Black and white to black and white inv.	amount
	68	Inverted	amount
	69	Black Mask	amount
	70	Black Mask inverted	amount
	71	Contrast	amount
	72	Brightness	amount
	73	RGB to GBR	amount
	74	RGB to BRG	amount
	75	RGB to RBG	amount
	76	Black and white to black and white inverted and timed	speed
	77	Colour to black and white timed	speed
	78	Colour to inverted timed	speed
	79	Cycle	speed
	80	Cycle inverted	speed
	81	Sepia	amount
	82	Sepia inverted	amount
	83	Colour Key	amount
	84	Colour Key inverted	amount
	85	Key Black	amount
	86	Key Black inverted	amount
	87	Key White	amount
	88	Key White inverted	amount

Channel	Value	Function	Type of control
6	89	White ash	speed
	90	Black ash	speed
	91	Alpha ash	speed
	92	Invert ash	speed
	93	Black and white ash	speed
	94	Black and white to black and white inverted ash	speed
	95	Gradient Wipe x	speed
	96	Gradient Wipe y	speed
	97-249	Reserved	
	250	Render engine pause	step
	251-254	Reserved	
	255	Shut down=255 for 5 sec.	step
7		**Gobo 1 effect control**	
		(Select effect on channel 6)	
	0 - 255	Control of amount/speed	proportional
8		**Gobo 1 Position X coarse**	
	0-127	Movement to the left	proportional
	128	Centre	step
	129-255	Movement to the right	proportional
9		**Gobo 1 position X fine**	
	0-255	Position X fine	proportional
10		**Gobo 1 Position Y coarse**	
	0-127	Movement down	proportional
	128	Centre	step
	129-255	Movement up	proportional
11		**Gobo 1 position Y fine**	
	0-255	Position Y fine	proportional
12		**Gobo 1 zoom X coarse**	
	0-127	Narrowing	proportional
	128	Centre	step
	129-255	Widening	proportional
13	0-255	**Gobo 1 zoom X fine**	
		Zoom X fine	proportional
14		**Gobo 1 zoom Y coarse**	
	0-127	Narrowing	proportional
	128	Centre	step
	129-255	Widening	proportional
15	0-255	**Gobo 1 zoom Y fine**	
		Zoom Y fine	proportional

Channel	Value	Function	Type of control
Gobo layer 2			
16		**Dimmer 2** Dimmer intensity from 0% to 100%	proportional
17		**Gobo 2 selection**	
	0	White	step
	1	Gobo 1-black and white mask	step
	2	Gobo 2-black and white mask	step
	3	Gobo 3-black and white mask	step
	4	Gobo 4-black and white mask	step
	5	Gobo 5-black and white mask	step
	6	Gobo 6-black and whitemask	step
	7	Gobo 7-black and white mask	step
	8	Gobo 8-black and white mask	step
	9	Gobo 9-black and white mask	step
	10	Gobo 10-black and white mask	step
	11	Gobo 11-black and white mask	step
	12	Gobo 12-black and white mask	step
	13	Gobo 13-black and white mask	step
	14	Gobo 14-black and white mask	step
	15	Gobo 15-black and white mask	step
	16	Gobo 16-black and white mask	step
	17	Gobo 17-black and white mask	step
	18	Gobo 18-black and white mask	step
	19	Gobo 19-black and white mask	step
	20	Gobo 20-black and white mask	step
	21	Gobo 21-colour	step
	22	Gobo 22-colour	step
	23	Gobo 23-colour	step
	24	Gobo 24-colour	step
	25	Gobo 25-colour	step
	26	Gobo 26-gray	step
	27	Gobo 27-colour	step
	28	Gobo 28-gray	step
	29	Gobo 29-gray	step
	30	Gobo 30-colour	step
	31	Gobo 31-colour	step
	32	Gobo 32-colour	step
	33	Gobo 33-black and white	step
	34	Gobo 34-from yellow to green	step
	35	Gobo 35-from red to yellow	step
	36	Gobo 36-from magenta to red	step
	37	Gobo 37-from blue to magenta	step
	38	Gobo 38-from cyan to blue	step
	39	Gobo 39-from green to cyan	step
	40	Gobo 40-RGB strips	step
	41	Gobo 41-colour animation	step
	42	Gobo 42-colour animation	step
	43	Gobo 43-colour animation	step
	44	Gobo 44-colour animation	step
	45	Gobo 45-colour animation	step
	46	Gobo 46-colour animation	step
	47	Gobo 47-colour animation	step
	48	Gobo 48-colour animation	step
	49	Gobo 49-colour animation	step
	50	Gobo 50-colour animation	step
	51	Gobo 51-colour animation	step
	52	Gobo 52-colour animation	step
	53	Gobo 53-colour animation	step

Channel	Value	Function	Type of control
17	54	Gobo 54-colour animation	step
	55	Gobo 55-black and white animation	step
	56	Gobo 56-black and white animation	step
	57	Gobo 57-black and white animation	step
	58	Gobo 58-black and white animation	step
	59	Gobo 59-black and white animation	step
	60	Gobo 60-black and white animation	step
	61	Gobo 61-black and white animation	step
	62	Gobo 62-black and white animation	step
	63	Gobo 63-black and white animation	step
	64	Gobo 64-black and white animation	step
	65	Gobo 65-Robe logo animation	step
	66	Gobo 66-Robe logo	step
	67-255	Reserved	
18		**Gobo 2 control**	
	0	Stop	step
	1-127	Play slow---> normal	proportional
	128	Play loop	step
	129-254	Play normal---> fast	proportional
	255	Pause	step
19		**Gobo 2 Indexing and rotation**	
	0 -63	Clockwise rotation fast ---> slow	proportional
	64-127	Indexing	proportional
	128	No rotation-centre	step
	129-192	Indexing	proportional
	193-255	Anticlockwise rotation slow ---> fast	proportional
20		**Gobo 2 fine indexing (rotation)**	
	0 - 255	Fine indexing (rotation)	proportional
21		**Gobo 2 effect Selection**	**Type of effect control**
		(set amount/speed on channel 22)	
	0	Disabled	
	1	Zoom sinus	speed
	2	Zoom bump in fade out	speed
	3	Zoom fade in bump out	speed
	4	Zoom bump in out	speed
	5	Zoom in fade	speed
	6	Zoom out fade	speed
	7	Scale xy sinus	speed
	8	Scale xy bump in fade out	speed
	9	Scale xy fade in bump out	speed
	10	Scale xy bump in out	speed
	11	XY pos.circle ccw	speed
	12	XY pos. circle cw	speed
	13	XY pos. scroll up	speed
	14	XY pos. scroll down	speed
	15	XY pos. scroll left	speed
	16	XY pos.scroll right	speed
	17	Left-right diag. down scroll	speed
	18	Left-right diag. up scroll	speed
	19	Right-left diag. down scroll	speed
	20	Right-left diag up scroll	speed
	21	X rotate	speed
	22	Y rotate	speed
	23	XY rotate	speed
	24	XY inv. rotate	speed
	25	X inv. y rotate	speed
	26	Tile xy	amount
	27	Tile xy sinus	speed
	28	XYZ rot. cube	speed
	29	XYZ rot. sphere	speed

Channel	Value	Function	Type of effect control
21	30	X rot. cylinder	speed
	31	Y rot. cylinder	speed
	32	Cone z scale sinus	speed
	33	Kaleidoscope	none
	34	Fisheye in	none
	35	Fisheye out	none
	36	Swirl left	none
	37	Swirl right	none
	38	Bend x	none
	39	Bend y	none
	40	Tile frame	none
	41	Frame	none
	42	Plane Flip x	none
	43	Plane Flip y	none
	44	Plane Fip x y	none
	45	Plane mirror x	none
	46	Plane mirror y	none
	47	Plane mirror xy	none
	48	Plane tile 2x	none
	49	Plane tile 3x	none
	50	Plane tile 4x	none
	51	Plane tile 5x	none
	52	Disc	none
	53	Disc Flip x	none
	54	Disc Flip y	none
	55	Disc Flip x y	none
	56	Disc mirror x	none
	57	Disc mirror y	none
	58	Disc mirror xy	none
	59	Squeeze in	none
	60	Squeeze out	none
	61	Plane wavy diag 1	none
	62	Plane wavy diag 2	none
	63	Stretch x	none
	64	Stretch y	none
	65	Colour to black and white	amount
	66	Colour to black and white inverted	amount
	67	Black to white inverted	amount
	68	Inverted	amount
	69	Black Mask	amount
	70	Black Mask inverted	amount
	71	Contrast	amount
	72	Brightness	amount
	73	RGB to GBR	amount
	74	RGB to BRG	amount
	75	RGB to RBG	amount
	76	Black and white to black and white inverted timed	speed
	77	Colour to black and white timed	speed
	78	Colour to inverted timed	speed
	79	Cycle	speed
	80	Cycle inverted	speed
	81	Sepia	amount
	82	Sepia inverted	amount
	83	Colour Key	amount
	84	Colour Key inverted	amount
	85	Key Black	amount
	86	Key Black inverted	amount
	87	Key White	amount
	88	Key White inverted	amount
	89	White Flash	speed
	90	Black Flash	speed

Channel	Value	Function	Type of control
21	91 92 93 94 95 96 97-255	Alpha Flash Invert Flash Black and white Flash Black and white to black and white inverted Flash Gradient Wipe x Gradient Wipe y Reserved	speed speed speed speed speed speed
22	 0-255	**Gobo 2 effect control** (Select effect on channel 21) Control of amount/speed	 proportional
23	 0-127 128 129-255	**Gobo 2 Position X coarse** Movement to the left Centre Movement to the right	 proportional step proportional
24	 0-255	**Gobo 2 position X fine** Position X fine	 proportional
25	 0-127 128 129-255	**Gobo 2 position Y coarse** Movement down Centre Movement up	 proportional step proportional
26	 0-255	**Gobo 2 position Y fine** Position Y fine	 proportional
27	 0-127 128 129-255	**Gobo 2 zoom X coarse** Narrowing Centre Widening	 proportional step proportional
28	 0-255	**Gobo 2 zoom X fine** Zoom X fine	 proportional
29	 0-127 128 129-255	**Gobo 2 zoom Y coarse** Narrowing Centre Widening	 proportional step proportional
30	 0-255	**Gobo 2 zoom Y fine** Zoom Y fine	 proportional
Common channels for both gobo layers			
31	 0-255	**Cyan** Cyan (0-white, 255-full cyan)	 proportional
32	 0-255	**Magenta** Magenta (0-white, 255-full magenta)	 proportional
33	 0-255	**Yellow** Yellow (0-white, 255-full yellow)	 proportional
34	 0 1-254 255	**Iris** Open iris From max.diameter to min.diameter Closed iris	 step proportional step
35	 0-255	**Iris fine** Iris fine	 proportional
36	 0 - 30 31 - 80 81 - 110 111 - 140 141 - 255	**Strobe** Open light output Strobe-effect from slow to fast Open light output Random strobe-effect from slow to fast Open light output	 step proportional step proportional step

8. Media Hub - Control menu map

Default settings=Bold print

Default settings=Bold print

- Fixture Address
  - DMX Address
    - **001**
    - :
    - 512
  - Ethernet Settings
    - Set IP Address
    - Set ArtNet Universe
  - Operation mode
    - **DMX in**
    - Artnet in
    - DMX in-Artnet out
- Fixture Information
  - DMX values
    - Channel *(1-36)*
    - DMX value *(0-255)*
  - Software version
    - Render Engine
    - Display Device
  - Product IDs
  - Folder Size
    - Gobo 1
    - Gobo 2
- Personality
  - Display Adjusting
    - Display Permanent On *(**On**,Off)*
    - Display intensity *(1...**10**...15)*
    - Display Backlight *(1...**5**...10)*
    - Display Turned *(On,**Off**)*
  - IR sensor *(On,**Off**)*
- Test sequences
  - Demo mode 1
  - Demo mode 2
- Default settings
  - Display
  - Ethernet and DMX
  - Media Folder
- Special functions
  - Updating software
    - From Hardrive
    - From USB
  - Upload data from USB
  - Download data to USB

9. Control menu

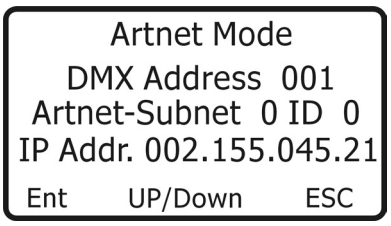
The control panel situated on the front panel of the base offers several features. You can simply set the DMX address and use many functions for setting fixture behaviour.

Control elements on the control board:

[RNS] encoder wheel-moves between menu items on the the same level, scrolls between values.
[ESC] button-leaves menu without saving changes
[ENTER] button-selects and stores entries.

After switching the fixture on, the display shows the initial screen:

Press [ENTER], the display shows current address:



The main menu of the control panel is accessed by pressing [ENTER] button. To browse through the menu, rotate [RNS] wheel. To select a function or submenu, press [ENTER] button. The curently selected options will be highlighted.The menu items are described below.

9.1 Fixture Address

Use this menu to set the DMX address.

DMX Address - Select this submenu to set DMX start address.Use RNS wheel to enter a valid DMX start channel and confirm it by pressing [ENTER].
DMX start address is defined as the first channel from which the MediaHub 2x4 DT will respond to the controller.
If you set, for example, the address to channel 37, the MediaHub 2x4 DT will use the channel 37 to 73 for control.
Please, be sure that you don't have any overlapping channels in order to control each MediaHub 2x4 DT correctly and independently from any other fixture on the DMX data link.
If two, three or more MediaHub 2x4 DT are addressed similarly, they will work similarly.

Ethernet Settings - Select this submenu to set the fixture for Ethernet operating.

Set IP Address - Select this item to set IP address.IP address is the Internet Protocol address. The IP uniquely identifies any node (fixture) on a network. There can't be 2 fixtures with the same IP address on the network!The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be zero to 255.
To set the IP address:

1. Select „Set IP Address" and press [ENTER].
2. Use RNS wheel to set the first number of IP addres.
3. Press [ENTER] to move on the second number of IP address.
4. Repeat steps 2 and 3 for the second,third and fourth number of IP address and confirm it by pressing [ENTER] .

Set ArtNet Universe - Select this item to set a Universe. The Universe is a single DMX 512 frame of 512 channels.
To set the Art-net universe:

1. Select „Set Artnet universe" and press [ENTER].
2. Use RNS wheel to set the **Subnet** value.
3. Press [ENTER] to move on the **ID** and set valid value and confirm by pressing [ENTER].

Operation mode - This menu item defines the source of DMX data and has three options:

DMX In - Data is transmited over standard DMX cables.
Artnet In - Data is transmitted over Ethernet cables using the Art-net protocol (see chapter Ether net connection).
DMX in-Artnet out - Data is transmited over standard DMX cable to the first fixture and from this fixture data is transmited over Ethernet cables using the Art-net protocol (see chapter Ethernet connection).

9.2 Fixture information

Use this menu to read an useful information about the fixture.

Channel Values - Select this function to read DMX values of each channel received by the fixture.
Software Version - Select this function to read the software version of the fixture modules:
Render Engine
Display Device
Product IDs - Select this function to read the MAC address or fixture code of the fixture.

Folder Size - Select this function to read the size of particular folders:
Gobo 1-The gobos and movies for layer 1
Gobo 2-The gobos and movies for layer 2

9.3 Personality

Use this menu to to modify MediaHub 2x4 DT operating behavior.

Display Adjusting - This function allows you to change the display settings.
Display Permanent On - This function allows you to keep the display on or to turn off automatically 2 minutes after last pressing any button on the control panel.
Display Intensity - Select this function to adjust the display intensity (1-min.,15-max.).
Display Backlight - Select this function to adjust the display backlight (1-min.,10-max.).
Display Turned - Select this function to turn the display by 180°.

IR Sensor - Select this function to switch on/off infra-red remote control**.**

9.4 Test sequences

Use this menu to to run demo sequences without an external controller, which will show you some possibilities of using the fixture.
Demo mode 1
Demo mode 2

9.5 Default settings

Select this option to upload factory values for the fixture:
Display - This option returns all display setting to the factory values.
Ethernet and DMX - This option returns IP address,Art-net values ,DMX address and Operating Mode to the factory values.
Media folder - This option restores factory gobos in the folders Gobo1 and Gobo2.

9.6 Special functions

Updating software - Using this function you can update software via USB stick or PC and Ethernet connection.
From Hardrive - Connect the MediaHub 2x4 DT (directly or via Ethernet Hub) to the PC.If you connect MediaHub 2x4 DT directly with PC ,cross-cable has to be used.
To update software in the MediaHub 2x4 DT:
1.The current software is available from the ROBE web site at WWW.robe.cz.
2.Make a new directory (e.g. Robe_Software) on your PC hard disk and download the software to it.
3.Unpack the program from the archive.Program file has name dt.exe.
4.Copy the new software (dt.exe) to the folder **update** in the Media Hub 2x4 DT.
5.Select option "From Hardrive" in the the menu and wait until the software update is finished.
From USB - The new software (file dt.exe) has to be saved in the folder **update** on the USB stick.Insert the USB stick to USB port and select option "From USB".Confirm your selection and updating process will start.i

Upload data from USB - The fixture is equipped with 2 USB ports for connecting an external memory medium (e.g.USB stick).
Insert the USB stick to the USB port and select option "Upload data from USB card".Confirm this selection and uploading process will start.This process will last according the data size to be transfered.

Be careful,original data will be overwriten.
The data on the external memory medium has to use the following folders structure for uploading:

Gobo1 .....folder with gobos (images/movies) for layer 1
Gobo2 .....folder with gobos (images/movies) for layer 2

The gobos in the folders are sorted in alphabetical order and this way they are assigned to DMX values (1-255).

Download data to USB - Insert the USB stick to USB port and select option "Download data from USB card".Confirm your selection and downloading process will start.This process will last according the data size to be transfered.
After downloading ,the standard folder structure is automatically created on the external memory medium:

Gobo1 ..... folder with gobos (images/movies) for layer 1
Gobo2 ..... folder with gobos (images/movies) for layer 2

10. Uploading data via Ethernet

If the MediaHub 2x4 DT is connected to the Ethernet,it is possible to upload gobos to the fixture without using USB port.This possibility is useful if you have difficult acces to the fixture(e.g. fixture hangs on the truss).
To update gobos:

1.Set channel 6 at DMX value 250
2.Copy the new gobos from your PC(or light console) to the folders Gobo1 and Gobo2 on the hard disk of the fixture
3.Set channel 6 at DMX value 0 for a moment
4.Now you can use your new gobos

11. Technical specifications

Power supply:

Voltage:.....100-240V AC, 50/60Hz ~
Fuse:.....T 1.6A@230V, T 3.15A@120V
Power consumption:.....130 VA

Video outputs:

2 x 15-Pin VGA output
2 x BNC Type RGBHV output

DMX inputs/outputs:

3-pin and 5-pin XLR connectors

Other inputs:

2 x USB 2.0 input
RS232 interface
RJ-45 input for Ethernet connection

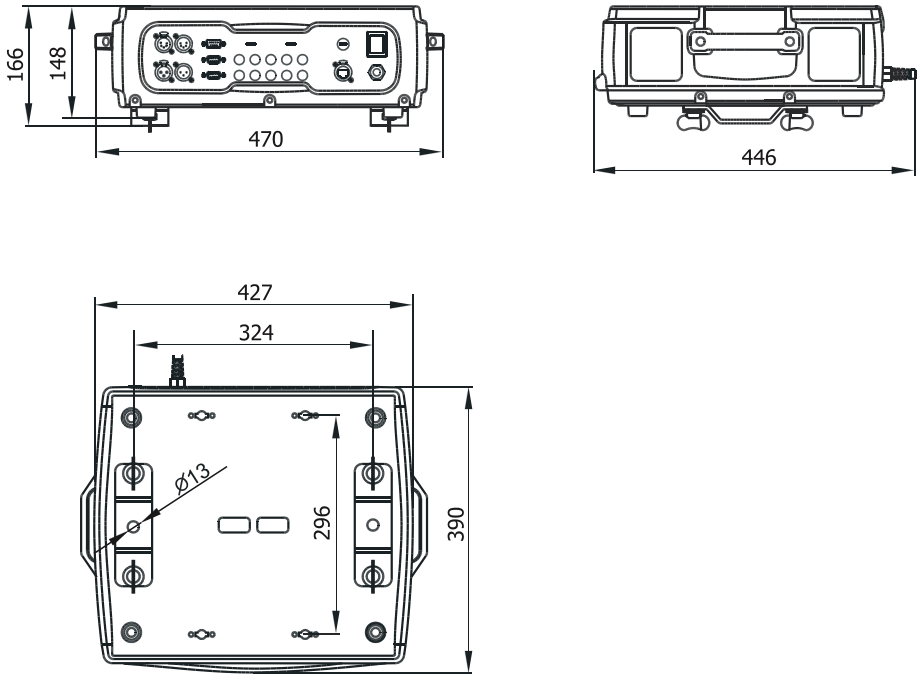
Rigging

Stands directly on the oor
Mounts horizontally or vertically with 2 Omega brackets
2 truss orientation
Safety chain/cord attachment point

Maximum ambient temperature:

30° C

Dimensions(mm):



Weight (net):

9.5 kg

Accessories

Omega holders (2 pieces).....No.99010420

Optional acesories:

Remote control IR.....No.13050419

12. Maintenance and cleaning

There are no user servicable parts within the product.
It is absolutely essential that the fixture is kept clean A soft lint-free cloth moistened with any good cleaning uid is recommended, under no circumstances should alcohol or solvents be used!

DANGER !
Disconnect from the mains before starting any maintenance or cleaning work

Maintenance and service operations are only to be carried out by authorized distributors.

Replacing the main fuse

Only replace the fuse by a fuse of same type and rating.
Before replacing the fuse, unplug mains lead.
Procedure:

1) Unscrew the fuseholder on the rear panel of the base with a fitting screwdriver from the housing (anti - clockwise).
2) Remove the old fuse from the fuseholder.
3) Install the new fuse in the fuseholder.
4) Replace the fuseholder in the housing and fix it.